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Of dinosaurs and intergenerational culture wars: Dinomania, nostalgia, and the 'missionary lizards' of young earth creationism

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Abstract

For over a century, dinosaurs have drawn crowds to natural history museums, where visitors learn about evolution and deep time. Towards the end of the twentieth century, certain young earth creationists began using dinosaurs as 'missionary lizards' to attract audiences and promote a biblically literal interpretation of the planetary past. Though long extinct, dinosaurs are thus significant figures in the ongoing U.S. culture wars. This article demonstrates how the Creation Museum in Kentucky uses dinosaur displays to legitimate a young earth and anti-evolution worldview. It also analyses how mainstream science museums and creation science museums alike leverage dinomania and a related sentiment, nostalgia, to draw crowds and create potent emotional experiences. A comparison of marketing materials for the Creation Museum and the Smithsonian's *Deep Time* fossil hall, both of which target children and their families, show how dinosaurs are intergenerational artifacts that connect people to personal and planetary pasts.

Keywords

dinosaurs, young earth creationism, deep time, children, museums, nostalgia, natural history

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Introduction

Dinosaurs are the fossilized darlings of natural history museums. Their display is one of the surest ways to draw crowds. This has been true since the Academy of Natural Sciences in Philadelphia debuted the nation's first dinosaur mount, a *Hadrosaurus*, in the 1860s (Conn 1998, 45). The museum could hardly

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manage the masses that came to see the dinosaur. Ultimately, it began charging an admission fee in an effort to control visitor numbers. When major museums opened fossil halls in the early decades of the twentieth century, visitors flocked to see the sensational mounts of strange and hulking creatures (Rieppel 2019, 70). Half a century later, new paleontological discoveries transformed popular understanding of dinosaurs from ungainly brutes to agile animals. Natural history museums that invested in renovating their dinosaur halls and incorporating new scientific interpretations saw visitor numbers increase (Carpenter 2012, 285–6). As historian Steven Conn put it at the close of the last century, 'then as now: exhibit dinosaurs and they will come' (1998, 45).

It was in the wake of this pronouncement, early in the new millennium, that the Creation Museum broke ground in Petersburg, Kentucky, where the U.S. Midwest and South meet. A roadside sign announcing the yet-to-be-built museum featured a *Tyrannosaurus rex* in silhouette, an image quite similar to the iconic logo of the blockbuster *Jurassic Park* franchise. Journalists were promised that this was a sign of more dinosaurs to come (Smith 2001). Though it is not uncommon to use dinosaur exhibits to attract audiences to cultural institutions, this particular usage was notable.[1] The Creation Museum was established by a nondenominational Christian organization called Answers in Genesis to promote the worldview of young earth creationists. Inspired by their literal interpretation of the Bible, young earth creationists argue against evolution and for an understanding that the earth is only 6,000 years old. According to mainstream scientific interpretations, dinosaurs and other fossil animals testify to the deep history of the planet. And yet, certain creationist communities have endeavoured to make dinosaurs and their young earth commensurable. The Creation Museum is not alone in its strategy. Since the early 1990s, creation museums have used sensational dinosaur displays to attract kids and their parents (Ziegler 2020, 477). By countering traditional scientific narratives with interpretations rooted in the Bible, they situate these creatures within their worldview and cash in on dinomania.

Natural history museums and creation museums alike leverage dinomania, though they have distinct educational and ideological ends. They promise to ease audiences' longing for what's been lost to time through material encounters with bygone ages. Nostalgia is a potent affect and its entanglement with dinomania, another commanding sentiment, deserves consideration. A close look at how museums promote their dinosaur displays offers insight into this emotional snarl, including its political implications. While this essay will focus primarily on how young earth creationists use dinosaurs as 'missionary lizards' in museums, this approach cannot be considered in isolation. There are significant strategic confluences across ideologies. And so, before turning to the creation scientists, I look to the Smithsonian Institution's National Museum of Natural History for an example of how mainstream (i.e., deep time) science plays on pervasive and cross-generational dinomania to attract audiences to its renovated fossil hall. Then I demonstrate how the Creation Museum counters mainstream science with biblically literal analysis that borrows the authority of scientific language and popular trust in museums to lend credence to its young earth interpretations (Barton 2012, 165; Burke and Tattersdill 2022, 318; Nash 2019, 2; Scott 2014, 226–234; Trollinger and Trollinger, Jr. 2016).

The stories we tell about the past have implications for how we participate in our present world and how we shape the worlds to come. Museums are storytellers. They engage in 'worldbuilding' projects, according to Verity Burke and Will Tattersdill (2022), who have demonstrated how natural history displays borrow techniques from science fiction and fantasy writing to create believable and compelling narrative experiences for visitors. Despite divergent worldviews, mainstream scientific sites and creation science sites both use dinosaurs to tell stories about the planetary past in ways that can shape the future. While their narratives often turn visitors' attention towards the past, the museums' focus on speaking to families and, especially, to children makes these spaces future oriented. When museums engage with the affective aspects of dinomania and nostalgia, they transform dinosaurs into intergenerational cultural artifacts that convey knowledge systems and attendant values packaged within an interpretation of

the planetary past. As the following analysis of museum advertisements and exhibitions will demonstrate, dinosaurs' impact on the culture wars spans generations.

From dinomania to dinostalgia

Dinomania is a historical phenomenon, though scholars have argued that humans are psychologically predisposed to it. Dinosaurs are thrilling, especially to children, because they are 'big' and 'scary'; and yet they are extinct, which makes them a 'sufficiently safe' fixation (Gould 1995, 223; Sax 2018, 8). Dinosaurs are also enchantingly different from creatures that exist today. They are examples of zoological otherness, animals always just out of reach, though people might try to make sense of them through comparisons to extant life. WJT Mitchell argues that the tension between otherness and familiarity is what makes the dinosaur such a powerful symbol. It is 'a figure in constant symbolic motion, shuttling between science and fantasy, nature and culture, the image of the other and a mirror of the self' (Mitchell 1998, 74). Dinomania is driven by an impossible desire to know creatures that no longer exist as well as an eagerness to know ourselves.

Importantly, children's shared love for dinosaurs has not been historically constant. Palaeontologist Stephen Jay Gould recalled that during his New York City-childhood in the 1940s and '50s, his interest in dinosaurs was not shared. Peers called him 'fossil face' and they did not mean it as a compliment. Gould suggested that dinomania is rooted in psychology but determined by mass commercial culture. In the 1970s, toy companies, media machines, museums, and the like realized that dinosaurs would sell. So, they sold them to children who demanded more dinosaurs. The 'exploitation of commercial possibilities' crested in 1993 with the release of *Jurassic Park* and the coordinated marketing tie-ins that accompanied it, such as McDonald's 'dino-sized' meals and limited-edition containers in the shape of a dinosaur's mouth (Gould 1995, 222–225, 234–235). That wave of commercialized dinomania has been surging ever since.

The psychological and commercial explanations of dinomania are sound. There is, though, another affect of this dynamic worth examining: nostalgia. Svetlana Boym characterized nostalgia (which translates literally as a grief to go home) as 'a longing for continuity in a fragmented world' that 'inevitably reappears as a defense mechanism in a time of accelerated rhythms of life and historical upheavals' (2002, xiv). Nostalgia, in its modern form, is a desire for a lost time, be it childhood or an imagined golden age of history (Fea 2018, 66; Matt 2007, 469). Returning to the past is not possible. Dinosaurs, though, seem to offer relief, for they provide 'transcendent' experiences where present and prehistoric past meet. They bridge temporal chasms and existential ones too, through their simultaneous mythic and material nature (Ford 2008, 76). Importantly, dinosaurs don't just connect people in the present to the *planetary* past. They connect people to their own past too. Early in the twenty-first century, Boym argued dinosaurs' remoteness was essential to popular fascination with them. 'Dinosaurs are ideal animals for the nostalgia industry because nobody remembers them. Their extinction is a guarantee of commercial success; it allows for total restoration and global exportability' (Boym 2002, 33). From my vantage in 2024, I would argue that now everybody 'remembers' dinosaurs. Decades of commercialized dinomania have ensured that generations of kids grow into adults who have personal memories of dinosaurian media and merchandise.

Dinomania and nostalgia have commingled, resulting in a hybrid we might call dinostalgia. This is a curious double longing that dinosaurs elicit, a pining for our own childhood and for a planetary past that's beyond our memory yet part of our personal experience nonetheless. Whereas the pain of nostalgia is rooted in the impossibility of return, this is doubly true of dinostalgia. Childhood is done; dinosaurs are extinct. And yet aren't dinosaurs all around us? Dinosaur fossils in museums, dinosaur stories in media, dinosaur representations in the children's clothing section of your nearest mass marketer.

So *maybe, just maybe*, dinostalgia convinces us, these dinosaurs can carry us back. The commercialized feedback loop that Gould critiqued in the 1990s is circling still. This matters because longing for what's lost, whether that loss is real or merely perceived, is potent. Nostalgia impacts what we buy, who we vote for, and even how we live in relation to other creatures on this planet (Fea 2018 9, 64–73; Jørgensen 2019). Whether a museum is promoting an earth that is young or old, dinosaurs sell.

Dinostalgia in deep time

In 2014, the Smithsonian's National Museum of Natural History closed its fossil hall for a renovation and reinterpretation. Five years later, in June 2019, the museum debuted its new permanent exhibition, *Deep Time*. The name communicates curators' ambitions to show change over time at a geological rather than a human historical scale. According to the press kit, the exhibition aims to 'inspire a new generation of dinosaur lovers and scientists'. Starting its interpretation 4.6 billion years ago and concluding in the future, the narrative invites visitors to contemplate their own impact on the geological record. 'Unlike past extinction and warming events', the exhibit brief explains, 'human activities are driving Earth's rapidly changing climate today. [*Deep Time*] will give visitors tools to interpret the past, present, and future and see how the choices they make today will live far beyond them, in deep time' (Smithsonian Institution 2019).

While this exhibit includes some 700 plant and animal specimens, initial promotional strategies for *Deep Time* focused on the dinosaurs. In the spring of 2019, ads began appearing around Washington D.C. on public transportation infrastructure, on sidewalks, in print, and on social media. Fossilized dinosaurs fill the background of these images. Skeletons of *Stegosaurus*, *Triceratops*, and *Tyrannosaurus rex*, rendered in a soft black, seem like shadows or, perhaps, phantoms. The serious and spectral quality contrasts dramatically with the vivid sketches that command the foreground. Orange, yellow, red, green and purple polka-dotted dinosaurs, illustrated by children not yet compelled to colour inside the lines [Figures 1 and 2]. The way the images are overlaid gives the impression that the kids' crayon creations are casting the skeletal shadows. These visuals emphasize a deep-rooted relationship between children, their imaginations, and dinosaurs. If we read the skeletal dinosaurs as shadows, this relationship is not just entangled but causal. Kids draw—*animate*—images of dinosaurs. Those drawings cast skeletal shadows. Those shadows signify the material traces of creatures that once lived. In the visual language of this campaign, the dinosaurs do not exist without children to draw them.

The ad copy further calls attention to the anachronistic relationship between children and their dinosaurs by conflating childhood with the prehistoric past. Consider the *T. rex* poster. 'Your childhood is calling. It sounds a bit like raawwr'. The text beneath the orange carnivore underscores the centrality of dinosaurs to 'your' childhood, drawing all viewers into the experience through a strategic and inclusive second-person pronoun. Nothing is universal, yet the ad invites us to accept that dinosaurs are. The fossil hall may be new, but visitors will encounter 'familiar wonder' there. Similarly, the text on an ad featuring a wobbly *Triceratops* directs viewers to 'Return to when dinosaurs ruled. Like when you were six' (Boncom n.d.). This is a modest form of time travel. Rather than journeying to the Mesozoic Era, we are only going as far as our own youth. I'm headed back to 1995. Maybe you have a different temporal destination. It's all relative.

The advertising agency that created this campaign was explicit about its target audience: 'parents – and their kids – who live in the greater Washington, D.C., area' (Boncom n.d.). The ads thus speak to adults, children, and adults' inner children all at once. The *Triceratops* ad entices viewers to visit the new exhibition with the sentimental promise that it will 'bring back memories' and allow you to 'make a few' new ones too. The ad with a spotted sauropod proclaims, 'Bring your inner child. And your actual child' [Figure 3]. A second T. rex, this one green and purple with stick-figure forelimbs outstretched, attracts eyes to copy that describes *Deep Time* as 'An exhibit for the ages. All of them' [Figure 4]. Dinosaurs are

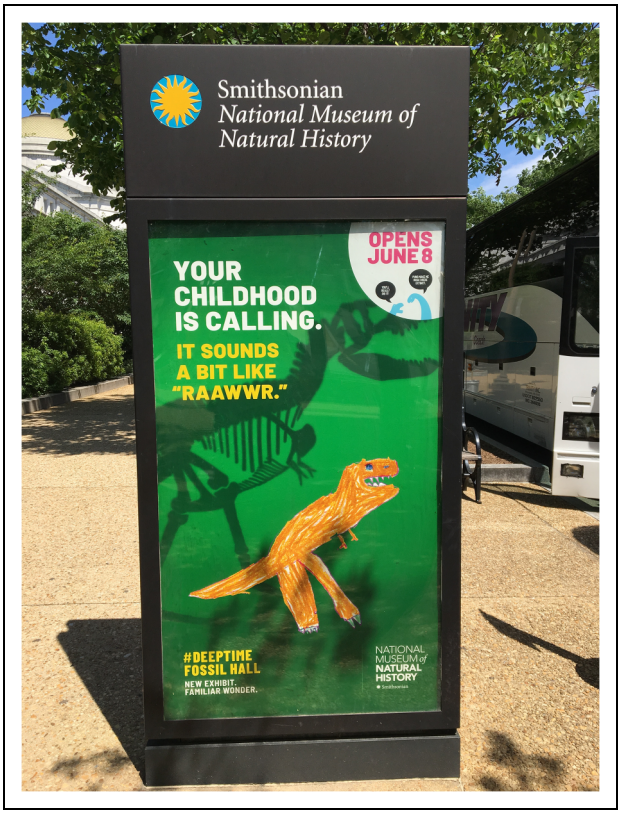

Figure 1. A T. rex promised 'familiar wonder' in *Deep Time*. Photo courtesy of Sherri Sheu, May 2019.

intergenerational artifacts. They allow adults and children to connect over a shared interest. This was even true for the campaign's designers, who described the ads as a cross-generational collaborative project. 'The 7-year-old in all of us (and our own 7-year-olds who drew the dinosaurs used in the ads) were thrilled to be living out our biggest life dreams of designing with dinosaurs'.[2] Creating the ads was a shared, sentimental experience. A visit to the *Deep Time* will be similarly affecting (or so the ads suggest).

Ultimately, this campaign plays on adults' nostalgia for a simpler time. That time is not rooted to any particular historical moment but rather to each viewer's relative childhood, when life was more elementary. By yoking prepubescent and prehistoric past, the ads offer the fossil hall as a balm for dinostalgia. Returning to childhood is impossible. A trip to the museum is not. *Deep Time* allows visitors to look upon the creatures that connect us to planetary and personal pasts simultaneously. These intergenerational artifacts inspire childlike wonder and create opportunities for adults to connect with the literal children in their lives. The message, implicit and impossibly compelling, is this: In the fossil hall, 'where 7-year-olds meet 67-million-year olds', we might just find our way home (Boncom n.d.). And if we get lost along the path of geological time, our consolation is an educational experience.

Missionary lizards

Dinosaurs are effective advertisers. Ken Ham, founder of the Creation Museum and the Answers in Genesis organization, understands this well. As the head of an apologetics ministry, Ham's mission

Figure 2. The *Stegosaurus* ad invited people to bring their 'inner child' and their 'actual child' to *Deep Time*. May 2019. Photo courtesy of Sherri Sheu, May 2019.

is to spread the creationist message to the masses. Dinosaurs help him do so. In 2001, as Answers in Genesis began building its museum in Kentucky, Ham spoke to a local journalist about plans to leverage popular affection for dinosaurs. 'Kids love dinosaurs, parents love dinosaurs, so they will definitely be a feature of the museum to get people in' (Smith 2001). Several years later, while the museum was still under construction, Ham explained the organization's logic to another journalist. Dinosaurs typically are 'used to teach people that there's no God', he argued, 'and they're used to brainwash people'. The creationists were merely reclaiming dinosaurs as didactic artifacts in a considered campaign that repackaged the most recognizable specimens of natural history museums to promote biblical literalism (Powers 2005).

Ham began using dinosaurs in his ministry long before the Creation Museum opened, by publishing dino-centric creationist literature for young readers in particular. In titles like *What Really Happened to the Dinosaurs?*, first published in 1988, kids learn that God created dinosaurs on the sixth day alongside humans, that all creatures were vegetarians before sin, and that Noah actually saved the dinosaurs from the Flood but humanity's sinfulness contributed to their eventual extinction (Morris and Ham 1990) In *D is for Dinosaur*, an alphabet book first published in 1991, readers take in a young earth creationist worldview through rhyme (Ham and Ham 2012). For instance:

The integrated campaign, which captured the wonder that children and adults alike have for dinosaurs, included ads in the Washington, D.C. Metro stations, bus wraps, digital and print ads in The Washington Post, and social media content. The target audience was the parents – and their kids – who live in the greater Washington, D.C., area.
RETURN TO WHEN DINOSAURS RULED.
LIKE WHEN YOU WERE SIX.
#DEEPTIME FOSSIL HALL
NOW OPEN
BRING BACK MEMORIES. AND MAKE A FEW.
NATIONAL MUSEUM of NATURAL HISTORY
Smithsonian
ANCIENT WONDERS.
NOT-SO-ANCIENT ADMIRERS.
#DEEPTIME FOSSIL HALL
NOW OPEN
BRING YOUR INNER CHILD. AND YOUR ACTUAL CHILD.
NATIONAL MUSEUM of NATURAL HISTORY
Smithsonian

Figure 3. The nostalgic *Deep Time* ads targeted families. Fair use screenshot courtesy of Boncom (Boncom n.d.).

H is for Hungry, it's how we describe

A big dinosaur with his mouth open wide.

Adam wasn't scared to watch dinosaurs eat,

Because all the creatures ate plants, and not meat.

Having adopting dinosaurs into his creationist children's literature in the 1980s, Ken Ham effectively anticipated the surge of commercialized dinomania that attended *Jurassic Park* at the end of the millennium.

Not all young earth creationists have embraced dinosaurs. Even within denominations there are differing opinions. For instance, Ronald L. Numbers and T Joe Willey explain that dinosaurs have been

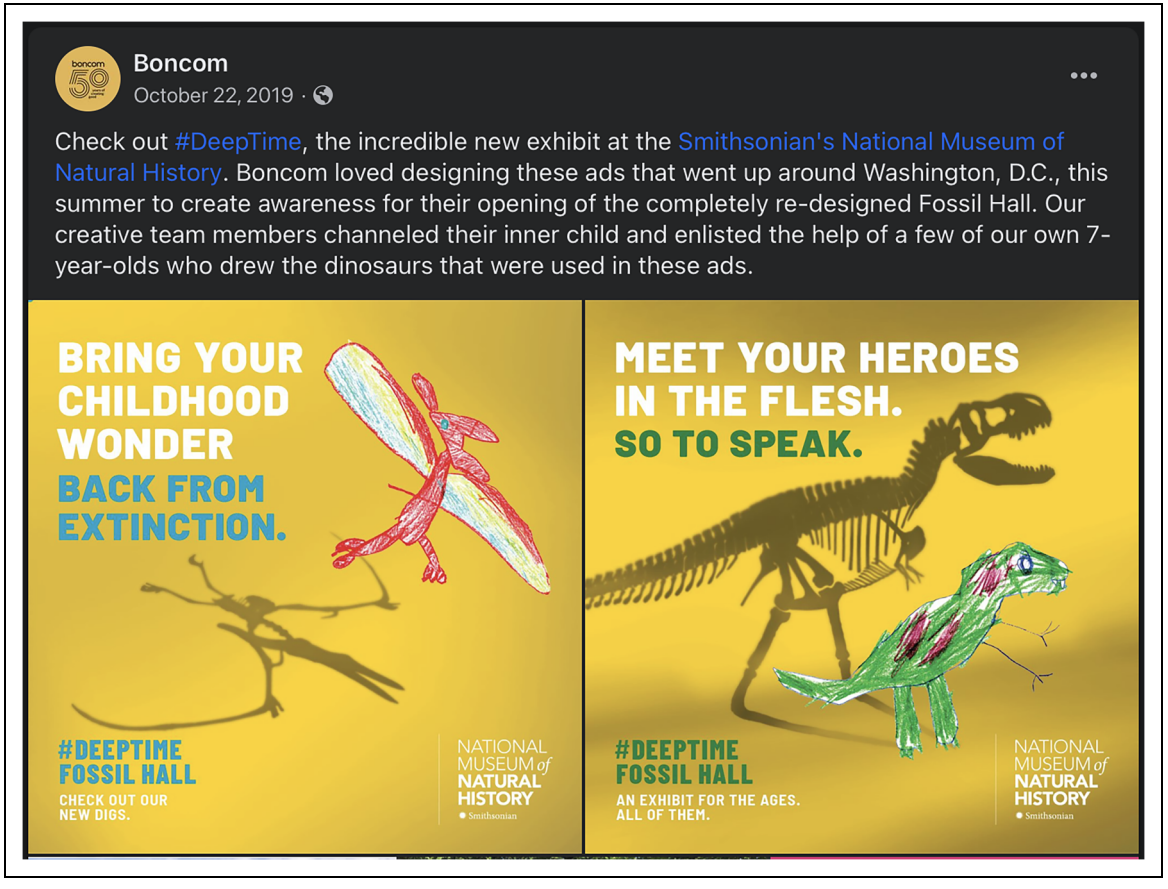
Boncom
October 22, 2019 ·
Check out #DeepTime, the incredible new exhibit at the Smithsonian's National Museum of Natural History. Boncom loved designing these ads that went up around Washington, D.C., this summer to create awareness for their opening of the completely re-designed Fossil Hall. Our creative team members channeled their inner child and enlisted the help of a few of our own 7-year-olds who drew the dinosaurs that were used in these ads.
BRING YOUR CHILDHOOD WONDER BACK FROM EXTINCTION.
#DEEPTIME FOSSIL HALL
CHECK OUT OUR NEW DIGS.
NATIONAL MUSEUM of NATURAL HISTORY
Smithsonian
MEET YOUR HEROES IN THE FLESH. SO TO SPEAK.
#DEEPTIME FOSSIL HALL
AN EXHIBIT FOR THE AGES. ALL OF THEM.
NATIONAL MUSEUM of NATURAL HISTORY
Smithsonian

Figure 4. Children and adults collaborated on the *Deep Time* ads. Fair use screenshot courtesy of Boncom (2019).

'baptized into the Seventh-day Adventist Church', meaning that scientists affiliated with the church no longer label dinosaur fossils as evolutionist hoaxes. Adventist scientists accept that these dinosaurs were real and, with some exceptions, interpret them within a young earth framework. And yet there are still doubts within the community. Because accepting the reality of dinosaurs might leave one vulnerable to evolutionary narratives, it is 'theologically safer to continue denying their existence' (Numbers and Willey 2015, 65). While church leadership has welcomed dinosaurs into the narrative, the reception from believers has not always been so warm.

Despite ongoing disagreements about how to interpret fossil animals within biblical flood geology, Ken Ham is not alone in his use of dinosaurs 'missionary lizards' for young earth creationism. The Creation & Earth History Museum, located in a suburb of San Diego, uses dinosaurs to promote its perspective. When I visited in 2016, I left with a complimentary bumper sticker featuring a carnivorous dinosaur and a Colossians quote: 'All things were Created by Him and for Him'. Even once-secular dinosaur displays have been co-opted for biblical literalism. In the 1990s, real estate developer Gary Kanter purchased a roadside attraction—massive *Apatosaurus* and *Tyrannosaurus* sculptures collectively known as the Cabazon Dinosaurs—near Palm Springs, California. Kanter and his wife Denise collaborated with Pastor Robert Darwin Chiles to transform the site 'from tourist stop to place of worship' and in 2005 they debuted their dinosaurs as proponents of young earth theory. In the gift shop (located in the belly of the *Apatosaurus*) visitors can purchase creationist kitsch, like a children's t-shirt that reads 'By Design and Not By Chance' (Powers 2005).

Just as the Smithsonian's *Deep Time* displays far more than just the advertised dinosaurs, the Creation Museum's displays are wide-ranging. Yet the marketing, merchandising, and many museum displays are premised on public dinomania. Ken Ham has enlisted dinosaurs into a crusade for the creation science movement. They are not just scientific specimens but 'missionary lizards' for his ministry (Smith 2001).[3] Dinosaurs greet visitors to the Creation Museum well before they enter. When I visited in 2017, I saw a *Stegosaurus* atop the entry gate, noticed signs promoting the 'Screaming Raptor' ziplines, and walked past a large sauropod sculpture before arriving at the museum's front door. Waiting in line to buy tickets (then $30 and now, in 2024, $50) I took in a small exhibit that makes the case that the prevalence of dragon legends around the world is evidence that humans and dinosaurs in fact lived side by side.

Advertising creation science to kids

Since the Creation Museum opened in 2007, its parent organization, Answers in Genesis, has experimented with different advertising campaigns. One of the most successful—if success is measured by the outrage and national press coverage inspired—was a widespread billboard campaign featuring dinosaurs and other long extinct creatures. Answers in Genesis invested around $500,000 in the purchase of 100 billboards along Interstates across the United States (Lovan 2012). Many of these billboards were local, including over a dozen displayed around the nearest metropolis, Cincinnati, Ohio. There were thirty or so billboards distributed across southern states and a score more advertising throughout the U.S. Midwest. But, significantly, at least one-third of the billboards were located farther than an easy drive away.[4]

Whereas the *Deep Time* dinosaur ads were drawn by children, the colourful creatures on Creation Museum billboards were drawn *for* them, illustrated in a visual vernacular evoking comic books and graphic novels. While this style is not exclusive to kids or young adults, it is accessible to them. 'The Brave Triceratops' stampedes out of its frame. 'The Keen Ankylosaurus', orange and armoured, swings its clubbed tail in the air. 'The Super Raptor' seems to be leaping down upon passing motorists, ready to swipe a fatal blow with its deadly claws. 'The Blazing Brachiosaurus', an herbivore, chews a

mouthful of leaves, though there's something menacing about its stare. A small human, illustrated only in silhouette, wonders at the creature's size [Figure 5]. The dinosaurs' epithets are punchy and, perhaps, an intentional parody of the binomial nomenclature system used by mainstream scientists. Whether it is playful or snarky, the revision of the dinosaurs' binomials signals that the museum understands the conversation in which it is intervening.[5]

Answers in Genesis selected Petersburg, Kentucky, as the home for its museum because two-thirds of Americans live within a one-day drive or a one-hour flight.[6] But the organization has ambitions to attract audiences from across the nation. This partially explains why it invested in 5 billboards in Texas, another 5 in Florida, 2 in Arizona, 3 in Utah, 1 in Colorado, 1 in Nevada, and 4 in California. Drivers in Texas, for instance, were invited to visit the museum, '1035 miles ahead', by 'The Thrilling T-rex' [Figure 6]. According to Ham, at least one couple in Kingwood, Texas, was inspired by the T. rex to make the long journey to Kentucky (Ham 2012*a*).

And yet, the museum did not expect to recoup advertising costs via visitors from these distant states. The far-flung billboards were a way to bring the museum's ministry, via charismatic 'missionary lizards', to the masses. Ham (2012d) justified it to his *Facebook* followers:

> They not only publicize the Creation Museum, but hopefully many people will check out the website and then have access to the AiG website and other great information. These billboards as well as being an advertising piece are also a witnessing tool.

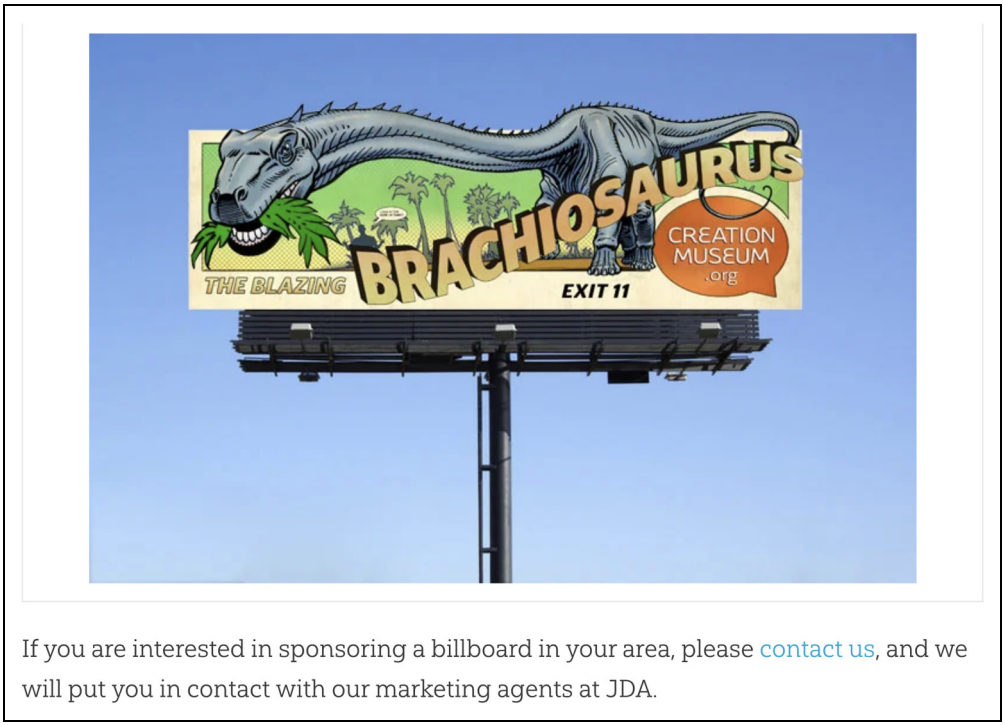
THE BLAZING
BRACHIOSAURUS
EXIT 11
CREATION MUSEUM .org
If you are interested in sponsoring a billboard in your area, please contact us, and we will put you in contact with our marketing agents at JDA.

Figure 5. The Creation Museum purchased 100 dinosaur billboards, like 'the blazing brachiosaurus', and invited the faithful to sponsor additional ones. Fair use screenshot courtesy of the Creation Museum (Ham 2012*c*).

This board in Texas is drawing visitors to the Creation Museum over 1,000 miles away!

Yes, the billboards are working, praise the Lord! Many more people now know about the Creation Museum. What's more, as the atheists become more vocal about these outstanding billboards, their public opposition has helped fuel news reports across the nation, and more people are now visiting the museum!

Figure 6. Outrage at the Creation Museum's billboards created more publicity. Fair use screenshot courtesy of the Creation Museum (Ham 2012*a*).

In the context of young earth creationism, to witness is to testify for a literal interpretation of the Bible. The billboards were a sensational way to spread the message. Public outrage and mainstream news coverage of that outrage further contributed to the cause.

The billboards did not contain much information, just a highway exit number and a URL to the museum's website. Critics of the museum pointed out that if motorists didn't know what the Creation Museum was, they very well might think the billboard was advertising a natural history museum. Others, fully aware of the museum's mission, might still be persuaded to go by dino-loving children, who saw an exciting billboard and begged their parents to take them (Myers 2012). Parents might be caught between wanting to educate and wanting to please—or simply appease—their kids. The critics were expressing concern about people accidentally encountering creation science. Their reference to the agency of parents is an important reminder that whether accidental or intentional, museum visits tend to be shared intergenerational experiences. Young children don't travel to the museum on their own. It's the parents, schools, and church groups that bring kids there by the bus load.

Ken Ham was amused by the uproar his billboard campaign aroused among the 'secularists' and 'atheists'. To readers of the Answers in Genesis blog, Ham (2012b) mused,

> Why do they get so upset? Why do they get so emotional about this? Well it's because they know kids love dinosaurs, and they accuse us of using dinosaurs so kids will want to come to the Creation Museum—well of course we do that! Kids and adults love dinosaurs, and we use them deliberately in our advertising!

Ham does not conceal this tactic. He acknowledges it proudly. What he does push against is the notion that mainstream scientific institutions have the sole claim to dinosaur interpretation. 'Atheists use dinosaurs to try to convince children there is no God—and that evolution and millions of years are fact'. What visitors to the Creation Museum get, instead of a story about deep time, is the true history of the world from the Bible, including the gospel message' (Ham 2012*a*).

The dinosaur billboards that beckoned kids and adults to the Creation Museum in 2012 did not play on affects like longing. Young earth creationism does not engage with dinostalgia in the same way that mainstream dinosaur narratives do. That compounded ache for the personal past and an impossible prehistoric one does not translate. A literal interpretation of the Bible teaches that humans and dinosaurs lived together, harmoniously at first, before Adam's sin. There is, instead, a zeal to convince others of the Bible's literal truth coupled with a longing to return to an imagined past when the United States was a Christian nation. Though that time and place never existed, as scholars have

established, politicians have leveraged it through nostalgic promises to 'Make America Great Again' (Fea 2018, 10, 65). For groups like Answers in Genesis, dinosaurs are a publicity-generating engine that amplifies their message and might just help them recreate the imagined past they long for.

Textual evidence of the planetary past

The *Deep Time* campaign activated nostalgia and childlike wonder so as 'to introduce a new generation of dinosaur lovers to the [natural history] museum's incredible specimens' (Boncom n.d.). Those dinosaurs were employed as the charming doormen of science. In contrast, the Creation Museum's billboard campaign engaged widespread popular interest in dinosaurs to draw visitors to a place where they would learn alternative scientific narratives that conform with biblical literalism. The national campaign only created an affiliation between dinosaurs and young earth creationism. It did not use dinosaurs to teach it. However, in the museum itself, dinosaurs are an integral component of the ministry's young earth, anti-evolution narrative.

Throughout the museum, visitors encounter dinosaur animatronics, models, and fossils. A particularly striking example is in the museum's reconstruction of the Garden of Eden, one in a series of dioramas that displays scenes from the Bible. In the garden, mannequins of Adam and Eve repose, surrounded by strategically placed foliage. Close at hand, hidden in the trees, lurks a dinosaur. The sharp claws on its forelimbs suggest that the creature is a predator. But Adam and Eve are undaunted, for they know that neither this creature nor any other in Creation poses a threat to them. 'Before man's Fall, animals were vegetarians', a placard explains, 'there were no carnivores'. The sign quotes Genesis 1:30, directly. 'And to every beast of the earth, and to every fowl of the air, and to everything that creepeth upon the earth, wherein there is life, I have given every green herb for meat…' (Creation Museum, 'What Did Dinosaurs Eat?'). The dioramas contribute to a broader trend of materializing the Bible in order to create intimate and experiential 'access to the sacred past' (Bielo 2018, 175.) While mainstream science museums offer encounters with the material remains of the deep, pre-human past, creation museums invite people to experience the planetary past as human history.

In the dioramas, dinosaurs are used to emphasize that people and dinosaurs coexisted. Even if young visitors cannot read the placards with biblical evidence, they see dinosaurs and humans together in scenes that are presented as historical. In other displays, dinosaur fossils (or casts of those fossils) encourage visitors to question mainstream scientific interpretations of extinct animals. For instance, an interactive display invites people to 'touch a real fossil'. The leg bone of a hadrosaur, partially encased in plaster, is displayed just a couple feet off the ground, in arm's reach to all but the smallest visitors [Figure 7].[7] The interpretive materials that surround the bone convey a young earth message.

> Fossils don't come with tags on them that tell us how old they are. We have to study the clues we find to try to figure out their ages. Using the Bible as your starting point, see if you can figure out about how old this fossil is.

The 'clues' that the display offers up are not paleontological but textual: that God made dinosaurs on Day 6 of creation and it has only been about 6,000 years since then. He judged the world with a flood, sparing only Noah and those on the ark, a cataclysm that rapidly laid down fossil deposits. 'So', the display asks, 'could this dinosaur fossil be millions of years old?' Visitors don't have the chance to test their knowledge. The answer is right in front of them. 'No! The earth is just thousands of years old, so the fossils cannot be millions of years old' (Creation Museum, 'Go Ahead, Touch This Dinosaur Fossil'). Elsewhere in the museum and in publications, Answers in Genesis boasts of the PhD scientists it has on staff and uses scientific language to perform authority (Ford 2008, 38; Scott

Go Ahead,
Touch This
Dinosaur Fossil
Can you tell how old the fossil is?
So, could this dinosaur bone be millions of years old?

Figure 7. A touchable *Hadrosaurus* tibia exhibited 'knee-high'. Photo by author, July 31, 2017.

2014, 226–234). Here, however, in this knee-high display, the museum simply teaches people to look to the Bible, God's Word, for answers to all questions.

The Creation Museum exploits a *perceived* weakness of the historical sciences, for disciplines like geology and palaeontology seek to reconstruct the planetary past from an incomplete archive. Scientists admit this readily. Charles Darwin himself called attention to this in *On the Origin of Species*.

> The noble science of Geology loses glory from the extreme imperfection of the record. The crust of the earth with its imbedded remains must not be looked at as a well-filled museum, but as a poor collection made at hazard and at rare intervals. (1859, 487)

Darwin noted the need for careful comparison and 'cautious' correlation in analysis of the fossil record. This is simply the reality of historical science. And it is one that creation scientists use as opportunity to advance their own interpretations, lend credence to biblical literalism, and further their 'plausibility politics' (Oberlin 2020, 17). 'Dinosaur fossils don't come with tags on them', a sign near the touchable hadrosaur announces. 'But because we never have all the evidence, different scientists can reach very different conclusions, depending on their starting assumptions' (Creation Museum, 'What Do We Know About Dinosaurs?'). The material record is incomplete. But the textual record, creationists argue, is intact and inerrant.

An authoritative allosaurus

In 2014, the Creation Museum acquired a spectacular specimen of an *Allosaurus fragilis*. The allosaur, dubbed Ebenezer, is articulated much like any skeletal mount in contemporary natural history museums [Figure 8.] The exhibit mimics the visual language of such institutions, which have widespread public trust, in order to persuade visitors of its own authority (Burke and Tattersdill 2022, 318–319). While the display techniques evoke mainstream scientific representations of dinosaurs, the interpretative materials reiterate the biblical literalism of the museum's other dinosaur displays.

Visitors who pause to read learn that dinosaurs like Ebenezer 'were created on Day 6 along with man' and creationist scientists 'conclude that most of the dinosaurs died in the global Flood'. Those

Figure 8. Ebenezer the *Allosaurus* exhibited much like dinosaurs in mainstream science museums. Photo by author, July 31, 2017.

that survived on Noah's Ark ultimately perished 'due to competition for food, a post-Flood Ice Age, or other post-Flood catastrophes, or maybe even because people killed them for food or sport'. Ebenezer, though, never made it onto the ark. Citing Genesis 7:21–23, a placard narrates how the allosaur was 'overwhelmed by the rising Flood waters' and 'swept away in a sediment debris flow'. By dramatizing Ebenezer's death, the museum creates a memorable story for its young earth theory of rapid, catastrophic accumulation and geological change.[8]

The Ebenezer exhibit, like others in the museum, acknowledges the deep time interpretations of 'palaeontologists who believe in evolution'. On a sign that seeks to answer the question 'What Happened to the Dinosaurs?' the museum addresses, if only performatively, mainstream scientists' ideas about why dinosaurs went extinct. It mentions the dominant theory of asteroid impact and subsequent climate catastrophe. But these scientists are working with flawed data, the sign explains, 'because they don't start with the eyewitness account of creation that God gave to us in His Word, the Bible'. It turns out that Ebenezer the *Allosaurus* is a particularly effective genus to further this framing. *Allosaurus* translates as 'other lizard' or 'different lizard'. This is precisely how the Creation Museum presents itself. Its scientific interpretations are not pseudoscience or fringe science. Instead, it offers a 'different' science to that of deep time narratives.

The familiar refrain about starting points, which echoes throughout museum, crescendos in capital letters on a sign in front of Ebenezer the *Allosaurus*.

> WE HAVE TO FILL IN THE MISSING DETAILS BASED ON OUR WORLDVIEW—OUR STARTING POINTS. WE ALL HAVE THE SAME FOSSILS, THE SAME FACTS, AND THE SAME EVIDENCE. OUR BELIEFS ABOUT HOW THE EARTH WAS FORMED SHAPE OUR INTERPRETATION OF THE EVIDENCE. (Creation Museum, 'What Happened to the Dinosaurs?')

Setting the infallible Word of God against the error prone assumptions of Man is a delicate rhetorical argument. The museum does not want to generate universal distrust in 'man's word'. That would compromise the authority of scientists and other museum leaders. So, instead it emphasizes 'starting points' and shows how museum affiliates use God's word as the genesis for their science. The museum scientists (all of whom must sign statements of faith) readily acknowledge that their beliefs influence their treatment of data; but, they insist, secular scientists are just as guided by their own belief systems. The Creation Museum co-opts the charismatic subjects of science and the authoritative language of museums to legitimize its young earth beliefs. Displayed within a young earth context, the Creation Museum's dinosaurs participate in a narrative that undermines scientific consensus, not only about the age of the earth but also with respect to pressing planetary issues like anthropogenic climate change (Bielo 2020, 469). Kathleen C. Oberlin has argued that Creation Museum is a site for Answers in Genesis to organize its social movement and, specifically, to forward its 'plausibility politics'. The museum may not convert many secular visitors. Still, it offers 'enough evidence to make its narrative plausible to a broader public' and 'to provide believers new narratives to defend their beliefs' (Oberlin 2020, 193). The Creation Museum contributes to further polarization because it creates ways for young earth creationist adults to satisfy the interests of their dinosaur-obsessed children without encountering evolution or deep time narratives.

Dinosaurs in the culture wars

Over the past half-century, the U.S. culture wars have been waged on a number of battlefields. The fiercest fights have occurred with respect to classroom education and the informal learning environments of cultural institutions, especially federally funded museums like the Smithsonian (Hartman 2015; Laats 2010; Launius 2007; Macdonald 1998; Snelgrove 2008; Zimmerman 2009). Evangelical Christians who believe the United States to be a Christian nation have long had a stake in this contest. In the early 1960s, the U.S. Supreme Court issued rulings that judged mandatory prayers and Bible readings in public schools to be in violation of the First Amendment's Establishment Clause. Anti-evolutionist Christians in particular were goaded to creative action by more recent legal setbacks. Since the late 1960s, creationists have jockeyed with the U.S. school and court system, testing whether or not creationism could creep into in the science classrooms and textbooks of public schools (Numbers 2006, 243). While successful in certain states, most Supreme Court decisions have disappointed them. In 1987, for instance, the court ruled unconstitutional a Louisiana law called the 'Balanced Treatment for Creation-Science and Evolution-Science in Public School Instruction Act'. This law did not require public school teachers to instruct students in creationist theory; however, it stipulated that if a teacher addressed either evolution or creation, the other must be introduced as well. The majority opinion held that even this equal-time sort of stipulation used the state to serve a church (U.S. Supreme Court 1987).

The contest regarding creationism in public schools is far from over but late-twentieth century decisions like this inspired some young earth creationists like Ken Ham to work around the U.S. legal system rather than to fight it. His enthusiastic embrace of dinosaurs in children's literature, beginning in the 1980s, and later in the Creation Museum seems a direct response to these setbacks. Through Answers in Genesis, Ham has developed homeschooling curriculum that often (though not always)

features dinosaurs as a way for parents to keep their kids away from an evolutionist worldview (Creation Museum 2022). The implications of this work are serious. According to Pew Research Center analysis published in 2013, one-third of Americans rejected the theory of human evolution, selecting 'humans and other living things have existed in their present form since the beginning of time'. Even among the majority who declared a belief that 'humans and other living things have evolved over time', many expressed faith in divine influence. Almost a quarter of the 4,006 adults interviewed credited 'a supreme being' with guiding 'the evolution of living things for the purpose of creating humans and other life in the form it exists today' (Pew Research Center 2013).[9] The Creation Museum's dinosaurs may not have had a hand in these results, yet the 'missionary lizards' fuel distrust of mainstream science and contribute to heightening tensions in the culture wars.

The Creation Museum's dinosaurs can be connected even more directly to the nation's polarized politics. Ebenezer the *Allosaurus* was donated to the Creation Museum by the non-profit Elizabeth Streb Peroutka Foundation. The Director of that foundation, Michael Peroutka, is no naïve philanthropist. Beyond heading a foundation in the name of his late mother, the retired lawyer is politically active. He ran for President in 2004, pulling in about 150,000 votes nationally as a candidate for the far-right Constitution Party. The same year that Ebenezer went on display, in 2014, Peroutka was elected to local government in the state of Maryland as a Republican. In the 2022 election, he ran for Maryland's Attorney General. Upon seeing his large margin of defeat, he used the same technique as a recently indicted former president of the United States and charged that there were suspicious incidents at the polls. He refused to concede.[10]

Why did Peroutka, a proud separatist extremist donate a valuable fossil, appraised at $1 million, to the Creation Museum? It comes down to education. Peroutka has been particularly critical of the U.S. public school system, which he has called an 'indoctrination center' and, more forcefully, 'a cesspool of politically correct, condom-dispensing, sodomy-promoting sewage that calls itself education' (Crispino 2015). As an earlier attempt to disrupt the U.S. education system, Peroutka founded an organization called Institute on the Constitution. Its mission is 'to restore the Constitutional Republic through grassroots education' that emphasizes the importance of prayer, education, and political participation (Institute on the Constitution). By supporting the Creation Museum's mission to draw crowds through dinosaur displays, Peroutka furthered his commitment to countering mainstream education.

Answers in Genesis also has ties to Mike Johnson, the Republican politician elected as Speaker of the U.S. House of Representatives in October 2023. Before Johnson was elected to Congress in 2016, he worked as a state legislator and an attorney for conservative Christian groups. As a lawyer with the non-profit Freedom Guard, Johnson represented Answers in Genesis against the state of Kentucky, when its Governor, Democrat Steve Beshear rescinded a previous offer of tax breaks for the organization's next venture, the Ark Encounter. (The life-size ark theme park is about an hour's drive south of the Creation Museum. There are many dinosaurs there too.) The governor contended that Answers in Genesis would be hiring for the Ark based on religious belief, thus discriminating against non-Christians, which made the attraction ineligible. Johnson argued successfully that this was 'viewpoint discrimination'. Answers in Genesis subsequently received millions in tax incentives (Tait 2023). As a lawyer and local politician, Johnson had advanced extreme views, particularly against abortion and LGBTQ + rights. Upon his surprise rise to political power in 2023, journalists sought to understand if he stood by those views. 'Go pick up a Bible off your shelf and read it', Johnson told them. 'That's my worldview. That's what I believe and so I make no apologies for it' (Pengelly 2023). That rhetorical strategy is straight out of the Creation Museum's interpretive playbook. Got a question? The Bible has the answer. The refrains that kids learn from dinosaurs at the Creation Museum could serve them even in Congress.

Conclusion

Organizations like Answers in Genesis have deployed dinosaurs as 'missionary lizards' in a three-pronged culture war assault to proselytize, to trouble mainstream scientific and political authority, and to bring in profits. The dinosaurs are good business for creation science. According to non-profit filings that Answers in Genesis must submit annually, the organization drew in a revenue of $4 million in 2020 from the sale of books and media alone. And nearly $8 million from museum ticket sales (ProPublica n.d.). Critically, creation scientists and extremist politicians are not doing this work alone. According to news coverage related to old Ebenezer, the allosaur skeleton was prepared by 'a Utah-based expert… who did not want to be named' (Ohlheiser 2014). Perhaps this expert did not agree with the young earth worldview to which their labour contributed. Or perhaps they did, but could not announce it publicly for fear of being ostracized by their scientific communities. (And, I should add, the Creation Museum made tax-free revenue off my visit in 2017.) Dinosaurs are kids' business and serious business simultaneously. The commercialized dinomania that so troubled Stephen Jay Gould in the 1990s now has booming markets that allow distinct ideologies to remain siloed.

Critics of Ken Ham's 2012 billboard campaign conceded that he knew how to market his museum. Some acknowledged that natural history museums might learn a few tricks from him, though others rejected such compromise. As one biologist put it, 'The Smithsonian, the AMNH, and the Field Museum are not about marketing! They're *institutions* ***doing*** *science*' (Myers 2012). Scientists and other museum professionals will continue to disagree about this. Still, many of these '*institutions* ***doing*** *science*' have long relied upon dinosaurs to draw in visitors, who then encounter far more than dinosaurs once inside the museum. The mainstream science museums of the U.S. Midwest, which are (geographically at least) the Creation Museum's main competition for dinosaur displays, have experimented with sensational promotions for years. In 2000, before the Creation Museum broke ground, the Field Museum of Natural History loaned a replica *Brachiosaurus* to United Airlines in return for an undisclosed donation (Keoun 2000). The massive sauropod has towered over travellers at O'Hare International Airport and promoted the Field Museum's collections ever since.

More recently, the Cincinnati Museum Center exhibited its fossil specimens across the city while the museum itself was undergoing renovations. Through the 'Curate My Community' project, which began in 2016, the Cincinnati Museum Center put its star *Allosaurus* on display at the public library, installed a massive sauropod at a local brewery, and partnered with the Cincinnati/Northern Kentucky International Airport to exhibit the fossils of several Ice Age animals (Weingartner 2018). This project is particularly noteworthy because of its proximity to the Creation Museum, which is located in nearby Boone County, Kentucky, within the statistical boundaries of the Cincinnati metropolitan area. Travellers who fly into the Cincinnati airport can hop onto I-275 East and arrive at the Cincinnati Museum Center in about 20 min. If they go west instead, they will find the Creation Museum just 10 miles down the road. While the Cincinnati Museum Center did not position its community fossil displays in direct opposition to the Creation Museum's exhibits, they might be interpreted thus. The massive mastodon, on loan in the airport food court, implicitly invited people to consider mainstream scientific perspectives.[11]

Advocates for mainstream science museums will continue debate whether or not these institutions should engage in sensationalized marketing and display practices. The Smithsonian Institution's National Museum of Natural History, for its part, launched the nostalgic ad campaign for its renovated *Deep Time* hall in 2019, as if to announce that emotional experiences (and the marketing that generates them) do have a place in scientific institutions. The *Deep Time* advertisements and the Creation Museum promotions alike target children as chief dinosaur consumers and tap into a commercialized relationship that has been serving these institutions for many decades. Though mainstream science and creation

science museums use dinosaurs to tell contradictory stories about the planet's past, they are relying on the same dinomania—the same dinostalgia—to draw audiences into their worldview.

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Notes

1. Ilja Nieuwland (2020) has demonstrated how other cultural institutions, like zoos and aquaria, tried to capitalize on dinosaurs' ability to draw crowds even in the early 20th century.
2. While this campaign was not designed in-house at the museums, the museum's experts were involved in the process. On December 8, 2019, I spoke by phone with the museum's director, Kirk Johnson, who is a palaeobotanist by training. He told me that the framing of the parallel personal and planetary pasts was in part his idea.
3. The first traces of this phrase appear in press coverage at the turn of the millennium, as Answers in Genesis started work on the museum. The creation science community has embraced the phrase in the decades since.
4. While the campaign pushed as far east as New Jersey, with a single billboard in Fort Lee (just across the Hudson River from Manhattan), Answers in Genesis seems to have excluded New York and the New England region from the campaign entirely (Ham 2012d).
5. Other designs included 'The Odd Sauropods' and 'The Fire-Breathing Dragon', a dinosaur by the museum's reckoning. There were non-dinosaurs too, like 'The Mighty Mastodon', which raises a hulking forelimb as if to stomp on the cars below. See more billboards on the museum's website (Ham 2012c) and on the artist's personal page (Bays n.d.).
6. That fraction reflects demographic data at the end of the twentieth century. More recently, the museum has claimed that 80% of Americans live within that radius (Creation Museum 2016).
7. When the hadrosaur leg was first installed in 2010, the Creation Museum boasted on its website that this was one of several 'knee-high exhibits' installed for children (Creation Museum 2010).
8. Ebenezer is a reference to a place called Eben-Ezer or 'the stone of help' in the Old Testament. Mentioned in 1 Samuel, it is a monument erected by Samuel in remembrance of the Israelite victory over the Philistines (after a previous defeat). The Creation Museum draws a tenuous connection between dinosaur's name and God's judgment, as the *Allosaurus* is presented as having died in the Flood (Creation Museum, 'Who Am I?').
9. The Pew Research Center has found that the wording of survey questions significantly impacts how the surveyed public responds to questions about evolution. A recent experimental survey revealed that more U.S. adults will express belief in evolution if they are also able to express that God played a role in that process (Pew Research Center 2019).
10. Peroutka had ties to groups like the neo-Confederate League of the South, an affiliation that led the Human Rights Campaign to declare Peroutka a pro-secessionist white supremacist. Peroutka, for his part, has denied these labels. He did eventually disavow the League (Heim 2022).
11. At least one traveller has been disappointed to discover that the mastodon exhibited at the Cincinnati airport bears the tusks of a mammoth due to the availability of specimens (u/DudeWhoIsThat 2021).

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